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Senate Approves \$144,963,784 For C. A. A. In Fiscal '42

Conferees Will Consider \$66,477,750 Addition To Airport Program

Congress will make available to the Civil Aeronautics Administration during the 1942 fiscal year nearly \$145,000,000 if the House agrees to increases made by the Senate as it passed the appropriation bill for the Department of Commerce on May 19. Differences between this figure and the \$78,677,000 approved earlier by the House must yet be adjusted in conference.

The Senate approved an appropriation of \$94,977,750 for defense airport construction and \$25,000,000 for the Civilian Pilot Training Program. This represents an increase of \$66,477,750 over the \$28,500,000 item for airports passed by the House. If finally adopted, this will provide for work at a maximum of 399 sites instead of the 250-site maximum carried in the House bill. The Senate, in making the increase, wrote in a flat supplemental appropriation of \$61,477,750, and restored

\$5,000,000 cut by the House. The supplemental item was requested by the President after the House had passed the appropriation. The new appropriation, if agreed to by the House, will represent a sum more than twice the amount of the current program.

The figure of \$25,000,000 for the Civilian Pilot Training Program passed by the Senate is the same as the amount passed by the House, which had increased the budget figure of \$18,000,000.

Prior to going into conference, the Senate appropriation for the C. A. A. totaled \$144,963,784, representing a net increase of \$66,296,184 over the House bill, which carried appropriations of \$78,677,000. In addition to the increase for airport work, larger sums were granted for maintenance and operation of air navigation facilities, general administration, technical development, enforcement of safety regulations and operation of Washington National Airport.

The following tabulation shows major items in the 1942 appropriations bill as passed by the Senate, with comparisons with the House allotment, and the 1941 appropriation:

	Senate bill	House bill	1941 appropriation
Maintenance and operation of air navigation facilities.....	\$14,486,000	\$14,000,000	\$11,896,550
Technical development.....	525,752	500,000	557,000
Enforcement of safety regulations.....	2,750,360	2,712,000	2,298,957
Establishment of air navigation facilities.....	1,996,000	2,246,000	7,356,280
Civilian pilot training.....	25,000,000	25,000,000	37,000,000
Development of landing areas.....	94,977,750	28,500,000	40,000,000

C. A. B. Publishes Air Mail Survey for June 16-22, 1940

New York-Newark with 21.02 percent and Chicago with 8.86 percent head the list of cities originating the greatest air-mail poundage in the United States, the Civil Aeronautics Board stated in announcing publication of an air mail survey covering the week of June 16-22, 1940.

Besides the 2 leaders, 8 other cities each contributed more than 2 percent of the total. In order, they are: Los Angeles, San Francisco-Oakland, Washington, St. Louis, Philadelphia-Camden, Detroit, Boston, and Seattle. Cleveland and Minneapolis-St. Paul completed the group of 12 cities that accounted for more than half, or 62.3 percent of the country's air mail traffic. This is about equal to the percentage of all passengers originated at or destined to the 12 air stations ranking highest in passenger traffic.

The survey showed that the average air-mail letter takes a longer ride than the average human passenger. It was found that while only 55.7 percent of passenger traffic travels more than 325 miles, 94.5 percent of air mail traffic travels over 325 miles.

The dispersion of air-mail traffic, however, is much greater than air-passenger traffic, the survey said, both with reference to size groups of air stations and of intercity distances. While 65.3 percent of the passenger traffic of these 12 top-ranking stations represents interchange between themselves, only 40.5 percent of their air-mail traffic is exchanged between them. Thus, it is obvious that small towns make, relatively, much greater contributions to air mail than to air-passenger traffic.

The ratio of air mail to first-class mail is smallest in the industrial northeast (See AIR MAIL, page 135)

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Aeronautical Legislation
Pending

Following is a listing and a brief summary of proposed aeronautical legislation now pending before the Seventy-seventh Congress:

H. R. 1003—AERONAUTICAL RESEARCH (Randolph); a bill authorizing an appropriation for the construction and equipment at Morgantown, W. Va., of research facilities for aeronautical research; referred to the Committee on Military Affairs.

S. 1—CIVIL AERONAUTICS AUTHORITY (McCarran); a bill providing that the Civil Aeronautics Authority shall be an independent establishment of the Government; referred to the Committee on Commerce.

S. 7—AVIATION SALVAGE (McCarran); a bill to enact the Aviation Salvage Act at Sea Convention into statute law in the United States; referred to the Committee on Commerce.

S. 8—DEVELOPMENT OF AIRCRAFT LANDING AREAS (McCarran); a bill to provide for Federal cooperation with the States in the development of aircraft landing areas adequate to provide for the national defense, the Postal Service, and civil aeronautics; referred to the Committee on Commerce.

S. 17—PROHIBITING EMPLOYMENT OF ALIENS IN AIRCRAFT INDUSTRY (McCarran); a bill prohibiting the employment of aliens within the United States by persons manufacturing aircraft for the Government, and for other purposes; referred to the Committee on the Judiciary.

S. 53—AIRCRAFT SAFETY (Mrs. Caraway); a bill to amend the Civil Aeronautics Act of 1938 to provide additional safety for passengers in aircraft; referred to the Committee on Commerce.

S. Res. 7—COMMITTEE ON CIVIL AVIATION AND AERONAUTICS (McCarran); a resolution amending the rule XXV of the Standing Rules of the Senate by inserting "Committee on Civil Aviation and Aeronautics, to consist of 13 Senators"; referred to the Committee on Rules.

H. J. Res. 51—PROMOTION OF SAFETY IN AIR TRAVEL (Peterson of Florida); a joint resolution for the promotion of safety in air travel, by the construction of uniform identifying land markers; referred to the Committee on Interstate and Foreign Commerce.

S. 290—CIVILIAN GLIDER PILOT TRAINING (McCarran); a bill to establish a Civilian Glider Pilot Training Division in the Civil Aeronautics Authority; referred to the Committee on Commerce.

H. R. 3015—AIR MARKERS (Johns); a bill to provide for Federal cooperation in the construction and reconstruction of air markers, and for other purposes; referred to the Committee on Interstate Commerce.

S. 766—AIRLINE PILOTS' RESERVE (Mead); a bill to establish an Airline Pilots' Reserve, and for other purposes; referred to the Committee on Commerce.

H. R. 3132—DIVISION OF AVIATION EDUCATION (Larrabee); a bill to establish a Division of Aviation Education in the United States Office of Education, Federal Security Agency; referred to the Committee on Education.

H. R. 3259—INDEPENDENT AUTHORITY (Hinschaw); a bill to provide that the Civil Aeronautics Authority shall be an independent establishment of the Government, and for other purposes; referred to the Committee on Interstate and Foreign Commerce.

H. R. 3299—CIVILIAN PILOT GLIDER TRAINING (Cole); a bill to establish a civilian glider pilot training division in the Civil Aeronautics Administration, and for other purposes; referred to the Committee on Interstate and Foreign Commerce.

H. R. 3300—CIVILIAN GLIDER PILOT TRAINING (Fish); a bill to establish a civilian glider pilot training division in the Civil Aeronautics Administration, and for other purposes; referred to the Committee on Interstate and Foreign Commerce.

S. 873—DEFERMENT FROM SELECTIVE SERVICE (McCarran); a bill to amend the Selective Service and Training Act of 1940 to provide

for deferring from training and service persons who are receiving instruction in regular courses at certain aeronautical schools; referred to the Committee on Military Affairs.

H. R. 3386—TRAINING OF GLIDER PILOTS (Randolph); a bill to provide for the training of civil glider pilots; referred to the Committee on Interstate and Foreign Commerce.

H. R. 3755—RE-CREATION OF C. A. A. (Mrs. Rogers); a bill to re-create the Civil Aeronautics Authority; referred to the Committee on Interstate and Foreign Commerce.

H. Res. 124—CIVIL AVIATION (Kee); a resolution to amend rule X to provide for the creation of a Committee on Civil Aviation and Aeronautics; referred to the Committee on Rules.

H. R. 4002—PARACHUTES FOR AIRLINE PASSENGERS (Kramer); a bill requiring persons engaged in air commerce to equip passengers and flying personnel with parachutes, and to use safety devices similar to those required in the case of military and naval aircraft, referred to the Committee on Interstate and Foreign Commerce.

H. R. 4156—WEATHER REPORTING (Bolles); a bill to establish in the state of Minnesota a regional forecasting office of the Weather Bureau; referred to the Committee on Agriculture.

H. R. 4168—WEATHER REPORTING (Youngdahl); a bill to augment and increase the facilities of the meteorological station at Minneapolis-St. Paul, Minn.; referred to the Committee on Agriculture.

H. R. 4192—SECRETARY FOR AIR (Osmer); a bill to establish a Department of Air; referred to the Committee on Expenditures in the Executive Departments.

S. 1260—AVIATION EDUCATION (McCarran); a bill to establish a Division of Aviation Education in the United States Office of Education, Federal Security Agency, and for other purposes; referred to the Committee on Education and Labor.

S. 1317—WEATHER BUREAU (Ball); a bill to provide for the establishment of a district forecast office of the Weather Bureau in Minneapolis, Minn.; referred to the Committee on Commerce.

H. R. 3855—LATIN AMERICAN AIRWAYS (Fish); a bill to provide for hemispheric control of airways operating in Latin America; referred to the Committee on Foreign Affairs.

H. R. 4532—DEPARTMENT OF AIR DEFENSE (Randolph); a bill to establish a Department of Air Defense, and for other purposes; referred to the Committee on Expenditures in the Executive Departments.

H. R. 4664—CIVILIAN AIR RESERVE (Rankin); a bill to establish a Civilian Air Reserve to be organized and trained by the War and Navy Departments, and for other purposes; referred to the Committee on Military Affairs.

H. R. 3818—CIVILIAN AIR RESERVE (Randolph); a bill to establish a Civilian Air Reserve, to be organized and trained by the War and Navy Departments, and for other purposes; referred to the Committee on Military Affairs.

S. 1480—PUBLIC AVIATION FIELDS (McCarran); a bill to amend the Act entitled "An Act to Authorize the leasing of Public Lands for Use as Public Aviation Fields," approved May 24, 1928, as amended; referred to the Committee on Public Lands and Surveys.

H. R. 4746—CIVILIAN AIR RESERVE (Hefferman); a bill to establish a civilian air reserve; referred to the Committee on Military Affairs.

H. R. 4758—CIVILIAN AIR RESERVE (Peterson); a bill to establish a Civilian Air Reserve, to be organized and trained by the War and Navy Departments, and for other purposes; referred to the Committee on Military Affairs.

S. 1528—ACQUISITION OF FLOYD BENNETT AIRPORT (Walsh); a bill to authorize the Secretary of the Navy to acquire Floyd Bennett Airport; referred to the Committee on Naval Affairs.

H. R. 4790—DEPARTMENT OF AIR POWER (Heiter); a bill to establish a Department of Air Power; referred to the Committee on Expenditures in the Executive Departments.

Washington Airport Expected To Be Tourist Center

With the opening of the Washington National Airport, the Nation's outstanding landing field, the Capital will take its place on the small list of cities whose airports are designed also as entertainment centers.

Few cities in the world today, even in normal times, have as many visitors as Washington. The Capital has had its face lifted in the last decade, and today is definitely a rival in beauty of any world capital. The Greater National Capital Committee of the Washington Board of Trade estimates that 3,300,000 visitors came to Washington in 1940. The Interdepartmental Engineering Commission, consisting of representatives of the numerous Federal agencies that participated in the design and construction of the airport, had figures like these in mind when it started work. The commission purposely went beyond the original plan and not only built the last word in landing fields but also provided generously for spectators.

In this country, LaGuardia Field in New York led the way in provisions for the spectator, with a promenade 20 feet wide and 1,500 feet long from which the airplanes can be observed. The expe-

rience of the Germans at their Tempelhof field at Berlin, and of the Dutch at their Scheipol airport in Amsterdam, influenced the New York planners. At each of these European airports, spectator admission fees have almost paid the cost of the airport.

With an eye to the danger of early obsolescence, Washington's lay-out is such that parallel runways and a sea-plane base can be installed, if desired, with little or no interruption of regular service.

(See WASHINGTON AIRPORT, page 135)



CIVILIAN PILOT TRAINING

APPROVED

FLIGHT SCHOOL

Pictured above is one of the posters which will be distributed in the near future to flight schools participating in the Civilian Pilot Training Program. The posters are being prepared by the Work Projects Administration art project in New York and when completed will be sent to C. P. T. district offices for local distribution so that they may be displayed on airport bulletin boards. The posters are painted on waterproof plywood in red, white, and blue, and are 26 inches wide by 40 inches high.

Legislation Adopted

S. Res. 68—ADMINISTRATIVE PROCEDURE; the resolution authorizing the printing of monographs of Attorney General's Committee on Administrative Procedure embodying the results of the investigations made by it relative to the practices and procedures of the administration of various Government agencies, including the Civil Aeronautics Authority, was agreed to by the Senate (February 6).

H. R. 3325—NAVAL AVIATION; the bill which includes appropriations for the construction of a naval wind tunnel at Carderock, Md., and additional facilities at Naval Air Stations was passed by the House (February 19).

H. Res. 125—AIRLINE ACCIDENTS; the resolution creating a Select Committee to Investigate Airplane Accidents was agreed to by the House (March 6).

S. 840—AVIATION CADET; the bill to create the grade of aviation cadet in the Air Corps, Regular Army, was passed by the Senate (March 10), by the House (May 21).

H. R. 701—ALLENTOWN AIRPORT CORPORATION; the bill for the relief of the Allentown Airport Corporation was passed by the House (April 1).

RECIPROCAL TRANSIT OF MILITARY AIRCRAFT; an agreement, Executive D. 75th Congress, first session, between the United States of America and Mexico to facilitate the reciprocal transit of military aircraft through the territories and territorial waters of the two countries was agreed to by the Senate (April 3).

H. R. 4276—APPROPRIATION BILL FOR 1942; the bill making appropriations for the Departments of State, Commerce, Justice, and the Federal Judiciary for the fiscal year ending June 30, 1942, was passed by the House (April 3), by the Senate (May 19).

H. R. 4449—TRAINING OF ENLISTED MEN IN THE ARMY AS AVIATION STUDENTS—the bill to provide for the training of enlisted men in the Army as aviation students was passed by the House (May 21).

Private Flying

C. P. T. P. Summer Session Insurance Rates Cut 20%

Reduction is Second in 1941 and the Fifth Since Program Began

A voluntary underwriters' reduction of 20 percent in the rates for life and accident insurance, public liability and property damage premiums covering the C. A. A. Civilian Pilot Training Program will become effective when the summer session opens on July 1, it has been announced by Donald H. Connolly, Administrator of Civil Aeronautics. This will be the second cut this year and the fifth concession made by the aviation insurance underwriters in the 2 years the program has been in existence.

The new rate for each student taking private training will be \$7.20, including both the \$1,000 hospitalization and medical reimbursement and \$3,000 accidental death or dismemberment. In the secondary course, the cost will be \$9.60 for the same coverage.

Each flight operator is required to carry \$50,000 to \$100,000 public liability, and \$5,000 property damage insurance on each C. A. A. student enrolled in his school, and the rates on these policies have also been reduced from \$8 to \$6.40 for private students and from \$10 to \$8 for secondary students.

"This program has established a safety record unprecedented in the history of private flying," said Administrator Connolly. "In turning out more than 50,000 pilots there have been but 31 fatalities in the C. P. T.—19 students and 12 instructors. This is equivalent to 4,325,396 miles per fatality. The total number of miles flown by our trainees adds up to the astonishing figure of 134,087,280, equivalent to 22,000 round trips between New York and San Francisco.

"These 50,000 pilots and the additional 15,000 which we expect to certify before June 30 of this year are safe pilots because they have been taught to fly properly in controlled courses. The basic principle of safe flying was the first thing they learned and every move they made after that was watched over and controlled by instructors who had themselves been checked and rechecked by the C. A. A., so we could be sure that our plans would be carried out properly."

Previous to the establishment of the program, \$3,000 insurance coverage cost

a student pilot \$35. The first rate for the C. A. A.-controlled course was \$20. This was cut to \$14 in the fall of 1939, to \$10 last June, and to \$9 last September. On January 1, 1941, the amount of coverage for medical reimbursement and hospitalization was doubled without additional cost, and now there is another general reduction in rates.

Administrator Connolly added that it is logical to assume that this acknowledgment on the part of the underwriters eventually will have its effect on the insurance rates for all of private flying, since the C. A. A.-trained pilots will constitute the bulk of private fliers in this country in years to come.

C. P. T. Graduates Join Army, Navy

C. A. A. civilian pilot trainees now are volunteering for the Army and Navy air services at the rate of well over 100 per week, Donald H. Connolly, Administrator of Civil Aeronautics, announced May 6.

One-fifth of all flying cadets entering the Air Corps in March, and more than one-fourth of the nominees accepted for Naval aviation training during April were C. A. A. pilot trainees, he explained.

The latest figures show that out of the March class of 2,062 flying cadets, 458, or 22 percent, were graduates of the C. P. T. The Navy figure (for April) was 260 C. P. T. trainees out of a total of 940, approximately 27 percent.

"Each time we get a new set of statistics they bear out our often repeated statement that we are providing an economic backlog of pilot material from which the services can obtain large numbers of 'air-wise' young men," said General Connolly. "The number joining the Air Corps in March, for example, is 23 percent larger than the number in February."

"The majority are college students between the ages of 19 and 26 and as a matter of national policy are not subject to the draft rulings. However, the fact that they are volunteering in increasingly large numbers all the time seems to me to answer those persons who questioned the patriotism of our young men when the pledge of service was inserted last summer in the application for pilot training.

To date Army schools have drawn 3,728 graduates of the C. A. A. training and the Navy 1,803, according to official service records.

These figures include only those students who are now in military training or have been definitely accepted and are awaiting orders.

C. A. A. Urges Accuracy in Record Keeping

Several cases of falsification and irregularities in the signing of Government records by flight operators and trainees in the Civilian Pilot Training Program are being investigated at the present time, according to a memorandum being sent by the Civil Pilot Training Service of the Civil Aeronautics Administration to all C. P. T. flight operators.

"We believe the irregularities developed because the persons involved did not realize the significance or seriousness of the offense, since it is inconceivable that any operator would intentionally jeopardize in this way continuance of his increased business resulting from the training program," the Service stated.

Accompanying the memorandum is a poster which it is requested will be displayed on all airport bulletin boards. The notice thereon states that "It is unlawful for any Civilian Pilot Training student, instructor, or Civilian Pilot Training contractor to sign rating book sheets, flight record forms, or any other Government documents in *incomplete* or *blank* form, wherein certification of services performed under the Civilian Pilot Training Program is involved." The poster also quotes the section of the United States Code dealing with falsification of Government reports, and lists the penalties provided for such offense.

Designation of Medical Examiners

During the month of April, 1941, the following named physicians were officially authorized to make physical examinations for the Administration:

CONNECTICUT—Dr. Frank E. Wilson, 302 State Street, New London.

ILLINOIS—Dr. Harvey Austin Felts, 800 Public Square, Marion.

INDIANA—Dr. G. A. Held, 101 West Sixth Street, Jasper.

MICHIGAN—Dr. John R. Pedden, 1144 Madison Avenue SE., Grand Rapids.

MINNESOTA—Dr. Hubert W. Lee, 210 Parker Building, Brainerd.

MISSISSIPPI—Dr. Benson Blake Martin, Vicksburg Infirmary.

OHIO—Dr. Robert Orin Page, 722 Lima Trust Building.

TEXAS—Dr. William Elton Huddleston, 819 United States National Bank Bldg., Galveston; Dr. James Jarrell Muirhead, 2030 Cumberland Street, Vernon, and Dr. Roy S. Lander, Welder Building, Victoria.

WASHINGTON—Dr. Irvin A. Weichbrodt, 509 Olive Street, Suite 1421, Seattle.

WYOMING—Dr. Richard P. Fitzgerald, 206 Wyoming National Bank Bldg., Casper.

Airline Medical Examiners

Dr. Edgar L. Grubb, 609 West Main Avenue, Knoxville, Tenn.
Dr. Richard P. Fitzgerald, 206 Wyoming Bank Bldg., Casper, Wyo.

The following physicians have changed their addresses during the month, their new addresses being as follows:

Dr. H. Bruno Arnold, 49 Dwight Street, New Haven, Conn.
Dr. Willard M. Pratt, 1048 Esperson Bldg., Houston, Tex.

The following physicians are no longer making examinations for the Administration:

Dr. Philip J. Savage, New London, Conn.
Dr. Alonzo N. Baker, Marion, Ill.
Dr. Albert H. Held, Huntingburg, Ind.
Dr. R. Claude Young, Arkansas City, Kans.
Dr. Roser E. Hubbard, Greenfield, Mass.
Dr. Robert E. Kelly, Grand Rapids, Mich.
Dr. George J. Halladay, Brainerd, Minn.
Dr. Benson Blake Martin (Sr.), Vicksburg, Miss.
Dr. Herbert A. Copsey, Alliance, Nebr.
Dr. Alan D. Knisely, Lima, Ohio.
Dr. E. M. Dunstan, Dallas, Tex.
Dr. G. Mason Kahn, Galveston, Tex.
Dr. Otto J. Juhl, Vernon, Tex.
Dr. Fred W. Hartwick, Victoria, Tex.
Dr. Charles Firestone, Seattle, Wash.
Dr. Allan McLellan, Casper, Wyo.

C. A. Manual Changes Issued by Administrator

The Administrator of Civil Aeronautics has amended the interpretation for requirements for flight instruction curriculum in connection with advanced flying school ratings. Paragraphs *a* and *b*, under "9. CURRICULUM" of section II of Civil Aeronautics Manual 50 have been revised to read as follows:

- a. A minimum of 50 hours of dual and check time and 105 hours of supervised solo time must be given: *Provided*, That a curriculum which includes all of the Civil Aeronautics Administration controlled private, secondary, student instructor, cross-country, and final review courses may be accepted in lieu thereof.
- b. 8 hours of dual instruction must be given prior to solo flight.

These changes are to be interpreted to mean that an operator applying for an advanced flying school approval may submit as his flight curriculum the controlled courses contained in Paragraph *a*, in the above which will be considered to have met the 105 hours supervised solo requirement and the 50 hours of dual and check time requirement. However, it should be remembered that the curriculum in order to be accepted must also include the minimum requirements contained in paragraphs *c*, *d*, *e*, *f*, *g*, and *h* under "9. CURRICULUM," section II of Civil Aeronautics Manual 50, and in no way waives the present 175-hour minimum flight time requirement for graduation from an approved advanced flying school.

Paragraph *c*, under "9. CURRICULUM" of section II of Civil Aeronautics Manual 50 has been revised to afford a clarified breakdown of the differentiation between the minimum dual and

Aircraft Fire Test Program Brings Constructive Results

C. A. A. Project Determines Design and Proper Application of Fire Detectors

An exhaustive test program to develop the most effective method of eliminating and controlling aircraft engine fire while in flight is being conducted by the Civil Aeronautics Administration.

The program, which has been underway for some time, is being carried out by the C. A. A.'s Technical Development Division at the Bureau of Standards in Washington. Results from the phase of the experiments already completed have determined design criteria and methods of proper application of fire detectors. Tests on various types of fire extinguishing agents have resulted in valuable data concerning the relative efficiencies and required amounts of the agents, and in information regarding the proper design of distribution systems.

Extensive temperature measurements throughout the aircraft nacelle and on the wing surfaces in its vicinity have provided reliable data concerning the effect of fires in flight on the materials comprising the power-plant installation and the nacelle and wing structure.

A report on the phase of the test program which has been completed to date is now being written and will be published in the near future. Meanwhile, a continuation of the test is underway at the Bureau of Standards, and will involve similar tests on other cowling arrangements, tests with other conventional engine installations, and the con-

sideration of fire hazards apart from those connected directly with power plants.

solo night flying requirements. The following minimum requirements have been adopted and should be incorporated in all future advanced flying school curriculums submitted with an application for approval as such:

- c. A total of 10 hours of dual and solo night flying instruction must be given which must include:
 - (1) A minimum of 4 hours dual instruction in night flying.
 - (2) A minimum of 3 hours solo night flying.
 - (3) A minimum of 3 hours cross-country night flying which can be either dual or solo, or any combination thereof. (Lighted airways are to be used whenever available.)

A report on the experimental project was included in an address delivered recently before the annual meeting of the National Fire Protection Association at Toronto, Canada, by Fred H. Grieme, Chief of the Airport Section of the Technical Development Division.

In his address, Mr. Grieme pointed out that the rapid development of air commerce and air defense in recent years has created many conditions which offer new problems from the standpoint of fire protection and which seem to call for special consideration and readjustment of the procedures and appliances used in the past.

He then gave a brief resume of what has been done by the United States Army Air Corps and other Government agencies in the problem of aircraft fire prevention, reviewing first the Air Corps initiation in 1923 and 1924 of actual testing of aircraft fires resulting from crashes.

The Bureau of Aeronautics of the Department of Commerce, now the C. A. A., he said, initiated its first studies of automatic sprinkler protection for airplane hangars in 1930.

He described the activities of the C. A. A. dealing with elimination of fire hazards due to fuel dumping from aircraft; tests of which began about 2 years ago. As a result of this research work and the design of improved dump valves and ejection nozzles, plus a regulation covering their use, it became possible to achieve practically complete immunity from fire hazards due to fuel dumping.

Turning to the problem of airports, he pointed out that the C. A. A. has a right, "and a duty," to concern itself about fire defense problems for the protection of airport facilities created through the expenditures of millions of dollars subject to certification by the Administrator of Civil Aeronautics.

Mr. Grieme then quoted from a report of 450 fatal and serious accidents during 1940, representing some 13 percent of the approximately 3,500 major aircraft accident reports received during the year. Of the 450 accidents studied, 119 or 27 percent occurred on airports, 190 or 42 percent occurred within a 5-mile radius of airports, and 141 or 31 percent were outside this radius. Thus, 68 percent of the accidents occurred either on or within 5 miles of airports.

Concluding, he listed eight points which represent the conclusions of the Technical Development Division on the subject of aircraft fire prevention, as follows:

(See FIRE PREVENTION, page 138)

Air Safety

C. A. B. Study of Simulated Forced Landing Accidents

Report Discusses Types of Mishaps During 1940

(The correct pattern for a forced landing is a watchful approach—watching engine operation, glide angle, drift, terrain, size of landing area, obstructions. With this in mind, the Civil Aeronautics Board's Safety Bureau herewith analyzes the record of simulated forced landing accidents in 1940. The mistakes made in 1940 are called to your attention so that you will avoid them in 1941 and thereafter.)

During the calendar year 1940, 41 aircraft accidents occurred while simulated forced landings were being made, according to the Civil Aeronautics Board. Of these 41 accidents, all but 2 occurred in the course of dual instruction; therefore, no differentiation is made between dual and solo flights. The records indicate that practically every accident was the result of pilot error or engine failure and involved stalling the plane, undershooting, overshooting, landing on unsuitable terrain, or striking obstructions.

For the purpose of study, these accidents have been divided into four general classifications, as indicated in the table below:

Fifteen (36.6 percent) of the 41 accidents resulted primarily from stalling the airplane. These cases of stalling the plane occurred principally when attempting to stretch the glide on approach to a field, and they accounted for most of the fatalities and resulted in a large percentage of material damage.

Twelve (29 percent) of the simulated forced landing accidents resulted from the engine failing to respond. Here again, undershooting was predominantly prevalent, and lack of attention

to the engine while losing altitude sealed the fate of the aircraft. If the engine is properly maintained and adjusted to operate while idling in a glide, and if the student is instructed in the principles of throttle adjustment and keeping the engine cleared out, most of the accidents of this type might be avoided.

Ten (25 percent) of the simulated forced landing accidents were the result of the aircraft flying or stalling into obstructions in the immediate vicinity of the predetermined landing areas. Fortunately, none of the 10 accidents resulted in fatalities. However, in 9 of them, the aircraft incurred washout or near washout damage and fatal injury to personnel easily might have resulted. It is important that the collision hazard in simulated forced landings be stressed to the student and that he be drilled in the normal precautionary routine against rush accidents.

Summary

There were many other recorded accidents which might be attributable to simulated forced landings but which are not included in this study, as sufficient information was not available to classify them definitely under this heading. However, the practice of gliding into and pulling out of small areas surrounded by obstructions and unsuitable terrain is extremely hazardous, whether for forced landing practice or otherwise. In these cases, the pilot depends entirely upon his engine and if that should fail, a catastrophe is unavoidable.

The value and importance of simulated forced landing practice for the student pilot is well known to the professional pilot. However, the method by which this instruction is conducted is sometimes questionable. It is evident that the first step in decreasing

the number of accidents in this type of flying lies with the instructor himself, as this study shows clearly that in the vast majority of cases, he is directly at fault both in his choice of terrain and in allowing the student too much latitude. The instructor must be on the alert and not allow the student to stall the airplane or to continue too far when undershooting or overshooting, especially when there are obstructions which must be avoided.

Be Alert, Vigilant Board Urges Pilots

Safety Bulletin Cites Greater Duty Brought by National Defense

Stressing the need for constant vigilance and alertness on the part of pilots, the Civil Aeronautics Board in a recent safety bulletin points out that the national defense program has made this an even greater duty. "Inattention will ultimately result in a collision," the Board warns. The full text of the bulletin follows:

Pilots' Part in Our National Defense Program: Avoiding Collisions

To avert collisions in the air, great stress has always been placed on the need in all pilots for constant vigilance and alertness. You have been instructed and cautioned to watch out for the other man, not to rely on his seeing you—inattention will ultimately result in a collision.

Many thousands of new military pilots are and will be flying along the airways and landing at your airports. These pilots, the world's best, have also been trained to be constantly alert. But remember, they are flying into fields strange to them; they may not be familiar with all the local traffic rules; their attention may be focused on fulfilling military missions; their airplanes may have much higher approach speeds than yours; during their final approach their forward vision may be badly restricted by a large engine, or, as with transports, by small cockpit windows. Also remember that their ships may not be as maneuverable as yours so they may not be able to avoid you as easily as you can avoid them. (Courtesy of the air requires you to give way to the less maneuverable airplane.) Alert as they are, the military pilots may not always be able to see you and upon seeing you avoid you.

Therefore, you must watch for them. That is now your patriotic duty and responsibility.

Cause of accident	Injuries					Damage				
	Fatal	Serious	Minor	None	Total	Wash-out	Overhaul	Major assembly	None	Total
Pilot stalled aircraft	6	1	1	17	15	5	4	5	1	15
Engine failed to respond		2	2	8	12	1	4	6	1	12
Collided with obstruction			1	2	10	3	2	4	1	10
Miscellaneous			1	3	4		1	3		4
Total	6	4	6	25	41	9	11	18	3	41

¹ One of these accidents involved solo flight.

AIR MAIL

(Continued from page 129)

and it increases toward the west and south, according to the survey. This reflects the fact that air mail increases its advantage over first-class mail with increasing distance from the principal concentration of mail generating power in the industrial northeast.

The survey illustrates movements of air mail to and from communities of various sizes, and is presented by means of 12 tables and 2 maps. The tables are grouped according to type of data they present. Those from I to V present studies of total air mail and first-class mail in and out of all air stations, and those from VI to XII present data on outgoing mail from 36 selected communities. Maps contained in the publication demonstrate the poundage of air mail coming in and going out of the survey communities during the test week and show the ratios of total air mail to total first-class mail for these communities.

Special dispatch cases, corresponding to 273 destinations appearing in the survey, were used in making the study. At 36 stations outgoing air mail was put into these cases and weighed and tallied before being redistributed into regular dispatch pouches. In order to arrive at the poundage figures for existing air stations, over 7,000,000 pounds of first-class, and almost 360,000 pounds of air mail had to be weighed. In accumulating the destination figures, 130,000 pounds of mail were handled in the special dispatch cases.

The Post Office Department and the Civil Aeronautics Board cooperated on the survey.

WASHINGTON AIRPORT

(Continued from page 131)

New York's facilities for spectators already have been severely taxed by crowds. In 1 day, visitors dropped \$2,300 in dimes in the turnstiles leading to the observation platform, and the daily average for a year has been \$500, or a total of about \$140,000. In addition, there is a charge for automobile parking at LaGuardia. Whether there will be a charge for parking here has not yet been determined.

Despite the difference in population, Civil Aeronautics Administration officials expect visitors at the Nation's own "laboratory" airport to be as numerous as those at LaGuardia. More official visitors certainly will call at Washington, because all the new and proven developments in airport design and management, and in air traffic control, both on the airways and at the airport, will be put into practical use here first.

Air Transportation

Board Awards EAL Winston-Salem Stop

The Civil Aeronautics Board has amended the certificate of Eastern Air Lines, Inc., for its route No. 5 to include Winston-Salem, N. C., as an intermediate stop. The amendment was restricted so that schedules stopping at Greensboro, N. C., 20 miles distant, would not stop at Winston-Salem, and those stopping at Winston-Salem would not stop at Greensboro. These two cities and High Point, N. C., with the cities and towns adjacent, are known as the "Tri-Cities."

The Board stated that Winston-Salem, the second largest city in North Carolina and an important industrial center for tobacco and textile manufacturing, has not been receiving adequate and convenient air service through Greensboro. "As a general proposition," its opinion said, "there would appear to be little justification for the inauguration of air service to a point located approximately 20.5 miles from the airport of a city already designated as an intermediate stop, particularly where ground transportation facilities between such points are adequate. However, in the instant case, it must be recognized that applicant operates a large number of schedules daily over the route, * * * and would be able to provide service to Greensboro and Winston-Salem on different schedules, thus eliminating the disadvantages which would result if both points were to be served on a single flight. In addition, the proposed schedule would increase the amount of service to the entire Tri-Cities area, and points closely adjacent thereto, without unduly burdening existing schedules or through service on route No. 5, and without excessive cost either to the carrier or to the Government."

Route No. 5, as amended, operates between the terminal points, New York, N. Y. and Newark, N. J., and New Orleans, La., with intermediate stops at: Philadelphia, Pa., Baltimore, Md., Washington, D. C., Richmond, Va., Winston-Salem, N. C., Greensboro, N. C., Charlotte, N. C., Spartanburg, S. C., Greenville, S. C., Atlanta, Ga., Columbus, Ga., Birmingham, Ala., Montgomery, Ala., and Mobile, Ala., and the terminal point, New Orleans, La.

Air Mail to Greece

Beginning at once, air mails for Greece (except the island of Crete)

will be sent by the transatlantic air mail route with postage at the rate of 30 cents per half ounce, the Post Office Department has announced. Air mails for Crete will continue to be sent via the transpacific route, with postage at the rate of 70 cents per half ounce, or by steamship to Capetown thence by air from Capetown to Cairo, with postage at the rate of 45 cents per half ounce in addition to ordinary postage.

Air mails for Madagascar and Reunion will be dispatched to Lisbon by the transatlantic air mail route (with postage at the rate of 30 cents per half ounce), to be forwarded onward by ordinary means.

Board Awards TWA Reading, Pa. Stop

The Civil Aeronautics Board has amended the certificate of Transcontinental and Western Air, Inc., on route No. 2, to authorize an intermediate stop at Reading, Pa. United Air Lines Transport Corporation had also applied to the Board for authority to go into Reading, but was denied on the grounds that there is a greater flow of traffic between Reading and other cities on TWA's route than between Reading and other cities on United's route; that TWA expects to provide two round trips daily while United proposed only one, and that the potential traffic would not, at this time, justify two east-west carriers going into Reading.

The Board stated that Reading, an important industrial city, was one of the few municipalities in the United States with a population of over 100,000 which has not previously enjoyed airline service and that it found such service to be in the public interest. Increased expenses resulting from serving this new point should be more than offset by increased traffic revenues and consequently there will be no additional cost to the Government, according to the Board.

TWA's route No. 2 as amended extends between the coterminal points New York, N. Y., and Newark, N. J., the intermediate points Philadelphia, Pa., Reading, Pa., Harrisburg, Pa., Pittsburgh, Pa., Columbus, Ohio, Dayton, Ohio, Indianapolis, Ind., St. Louis, Mo., Kansas City, Mo., Wichita, Kans., Amarillo, Tex., Albuquerque, N. Mex., Winslow, Ariz., and Boulder City, Nev., and the terminal point Los Angeles, Calif.

Airways and Airports

Aeronautical Charts

During March the following new editions of aeronautical charts were issued by the United States Coast and Geodetic Survey. Pilots are warned that the previous editions of the same charts are canceled and now are obsolete.

Regional and direction-finding (DF) charts are sold for 40 cents each, while sectional charts are 25 cents each. On orders grossing \$10 or more, a 33 1/3 percent discount is allowed. Copies of these charts may be obtained from the Coast and Geodetic Survey, Washington, D. C., and from recognized dealers at major cities and airports.

New Regional Aeronautical Chart

12-M. March 1941. Size, 27 by 45 inches. Located in latitude 31°15'–38°N., longitude 90°–111°W., an area of some 311,000 square miles. Lithographed in 14 colors, giving airports, names of airports, beacons, compass roses, isogonic lines, and civil airways, in red; radio ranges in pink; water in blue; areas of cities in yellow; names of topographic features in black; and elevation gradients in six colors.

New Edition of Regional Aeronautical Chart

8-M. March 1941. Size, 26 by 43 inches. Located in latitude 38°–44°N., longitude 90°–102°W., an area of about 250,000 square miles. Accumulation of changes since last edition.

New Edition of Alaska Aeronautical Chart

KENAI. April 1941. Size, 19 by 28 inches. Located in latitude 58°30'–61°45' N., longitude 145°–157° W., an area of about 90,000 square miles. Radio ranges added at Anchorage and Cordova.

New Editions of Sectional Aeronautical Charts

Cincinnati. April 1941. Size, 20 by 44 inches. Located in latitude 38°–40° N., longitude 84°–90° W., an area of about 52,000 square miles. Addition of Dayton radio range and accumulation of changes since last edition.

El Paso. April 1941. Size, 20 by 47 inches. Located in latitude 30°–32° N., longitude 102°–108° W., an area of about 50,000 square miles. The Salt Flats radio range added and the Quadruple Pass radio range deleted. Other changes accumulated since last edition.

San Francisco. April 1941. Size, 23 by 37 inches. Located in latitude 34°–38° N., longitude 120°–123° W., an area of about 25,000 square miles. Accumulation of changes since last edition.

Recognized Dealer

The Coast and Geodetic Survey has announced the addition of the following to the list of dealers authorized to sell charts:

Tri-State Aviation Corp., Cincinnati Airport, Sharonville, Ohio.
(The above is a name change from Sky Sport Associates, Inc., same address.)

Airport Projects Approved

In accordance with the provisions of section 303 of the Civil Aeronautics Act, the Administrator of Civil Aeronautics has issued certificates of air navigation facility necessity, authorizing the expenditure of Federal funds in the operation of the following projects:

CONNECTICUT	
Danbury, Municipal Airport (WPA)-----	\$214,654
Windham, Willimantic Municipal Airport (WPA)-----	175,377
FLORIDA	
Daytona Beach Municipal Airport (CAA-WPA)-----	371,089
GEORGIA	
Albany, Municipal Airport (WPA)-----	54,086
INDIANA	
Fort Wayne, Paul Baer Airport (WPA)-----	127,462
KENTUCKY	
Bowling Green, Municipal Airport (WPA)-----	101,435
MAINE	
Houlton, Municipal Airport (CAA-WPA)-----	161,730
Millinocket, Municipal Airport (CAA-WPA)-----	319,727
MARYLAND	
Beltsville, Beltsville Airport (CAA-WPA)-----	568,468
MONTANA	
Great Falls, Municipal Airport (WPA)-----	96,966
Havre, Havre Airport (WPA)-----	16,718
NEVADA	
Elko, Municipal Airport (CAA-WPA)-----	116,829
OHIO	
Cleveland, Municipal Airport (WPA)-----	469,439
OKLAHOMA	
Oklahoma City, Municipal Airport (WPA)-----	389,543
SOUTH CAROLINA	
Columbia, Owens' Field (WPA)-----	23,542
TEXAS	
Beaumont, Municipal Airport (WPA)-----	33,265
College Station, A. & M. College Airport (CAA-WPA)-----	206,030
San Angelo, Municipal Airport No. 2 (WPA)-----	267,931
San Antonio, New Municipal Airport (CAA-WPA)-----	2,108,867
VIRGINIA	
Lawrenceville, Municipal Airport (WPA)-----	8,067
WASHINGTON	
Port Angeles, Clallam County Airport (CAA-WPA)-----	71,777
WISCONSIN	
Stevens Point, Stevens Point Airport (WPA)-----	94,319

Guantanamo Named Airspace Reservation

The President on May 1 approved Executive Order No. 8739, establishing Guantanamo Bay Naval defensive sea area and Guantanamo Bay Naval airspace reservation. The Order shall become effective in 90 days.

The text of the Order, in part, follows: " * * * the territorial waters within Guantanamo Bay, Cuba, between high-water mark and the sea in and about the entrance channel within a line bearing true south extending three nautical miles from the shore line of the eastern boundary of Guantanamo Naval Reservation, as laid down in the Agreement between the United States of America and the Republic of Cuba signed by the President of Cuba on February 16, 1903, and by the President of the United States on February 23, 1903, a line bearing true south extending three nautical miles from the shore line of the western boundary of said Naval Reservation, and a line joining the seaward extremities of the above two bearing lines, are hereby set apart and reserved as a naval defensive sea area for purposes of the national defense, subject to the right of vessels engaged in Cuban trade to have free passage through the waters as provided for in said agreement, such area to be known as 'Guantanamo Bay Naval Defensive Sea Area'; and the airspace over the said territorial waters, and over the Guantanamo Naval Reservation, is hereby set apart and reserved as a naval airspace reservation to be known as 'Guantanamo Bay Naval Airspace Reservation.' "

4 More Classes Complete Air Servicemen's Course

During the month of May, classes in the Airport Servicemen's Training Program completed instruction at four more airports, bringing the total classes completed under the program to 10, according to the United States Office of Education.

Airports graduating classes last month include Boulevard Airport, Philadelphia, Pa.; Mercer County Airport, Trenton, N. J.; Roosevelt Field, Mineola, L. I., N. Y.; and Hagerstown Municipal Airport, Hagerstown, Md.

The project, sponsored by the Advisory Commission for National Defense and cosponsored by the Civil Aeronautics Administration and the Office of Education, plans the training of 5,750 airport ground servicemen throughout the nation. (A detailed description of the program appeared on page 88, Civil Aeronautics Journal, Vol. 2, No. 7, dated April 1, 1941.)

New Type Approvals

(Approval numbers and dates of assignment in parentheses)

Type Certificates Aircraft

Grumman, G-44, 5-place closed land amphibian-flying boat monoplane. Engines, 2 Ranger 6-440-C5 (734, April 5, 1941).

Harlow, PC-5A, 2-place closed land monoplane. Engine, Warner Super Scarab 165-D (735, April 4, 1941).

Piper, J4E, 2-place closed land monoplane. Engine, Continental A-75-9. (740, 4-28-41.)

Propellers

Sensenich, 74CF, wood, 6 feet, 2 inches diameter, 5 feet 0 inch to 4 feet 5 inches pitch, 130 horsepower, 2,600 revolutions per minute (766, April 5, 1941).

Aeronautical Engineering & Research, DC700, steel hub with Pregwood blades, 7 ft. 6 in. diameter, adjustable pitch, 125 hp. 2,150 rpm. (767, 4-24-41.)

Appliances

Bowlus, safety belt, model BS-100, Approved for one person (141, April 1, 1941).

New Models Added To Old Type Approvals

(Approval numbers and dates of approval of new models in parentheses)

Aircraft

Taylorcraft, BC12-65, 2-place closed land monoplane; BCS12-65, 2-place closed sea monoplane. Engine, Continental A-65-7 (type certificate No. 696, April 7, 1941).

Taylorcraft, BL12-65, 2-place closed land monoplane; BLS12-65, 2-place closed sea monoplane. Engine, Lycoming O-145-B1 (type certificate No. 700, April 7, 1941).

Glinters

Schweizer, SGS-2-8A, 2-place closed land monoplane, Class II. (Type Certificate No. 5, 4-3-41.)

Engines

Wright, Cyclone 704C9GC, 9 cyl. radial air cooled; 2 speed supercharger—maximum rating in low ratio (7:14:1); except take-off, 1,000 hp at 2,300 rpm up to 9,900 ft. altitude; take-off 1,200 hp at 2,500 rpm at sea level; maximum rating in high ratio (10:1); except take-off 900 hp at 2,300 rpm from 9,700 ft. to 14,000 ft. altitude, take-off 1,000 hp at 2,500 rpm at 9,200 ft. to 13,500 ft. altitude. (Type Certificate No. 219, 4-17-41.)

Aircooled, Franklin 4AC-199 D2 and D3, 4 cyl. horizontal opposed air cooled, 85 hp at 2,500 rpm at sea level pressure altitude. (Type Certificate No. 226, 4-23-41.)

Menasco, D4-85, 4 cyl. in line air cooled inverted, 125 hp at 2,175 rpm at sea level pressure altitude. (Approved Type Certificate No. 67, 4-28-41.)

Menasco, D4-87, 4 cyl. in line air cooled inverted; 134 hp at 2,260 rpm at sea level pressure altitude (take-off), 125 hp at 2,175 rpm at sea level pressure altitude (maximum, except take-off). (Approved Type Certificate No. 67, 4-28-41.)

Propellers

Hamilton Standard, 33D propeller with 6257A-O blades, steel hub and aluminum alloy blades, 13 feet 0 inch to 11 feet 0 inch diameter, hydraulically controllable (feathering) pitch, 1,300 horsepower, 1,350 revolutions per minute (type certificate No. 749, April 8, 1941).

Hamilton Standard, 33D propeller with 6257A-O blades, steel hub and aluminum alloy blades, 13 feet 0 inch to 11 feet 0 inch diameter, hydraulically controllable (feathering) pitch, 1,300 horsepower, 1,350 revolutions per minute (type certificate No. 749, April 8, 1941).

Fahlin, D-736, wood, 6 ft. 10 in. diameter, 5 ft. 7 in. pitch, 165 hp, 2300 rpm. (Type Certificate No. 585, 4-22-41.)

Manufacturing and Production

Special Priorities Granted by O. P. M. for Plane Manufacture

To speed production of military airplanes for the United States and Great Britain, the Priorities Division, Office of Production Management, has granted special preference rating orders to a number of manufacturers of airframes, engines and propellers.

Two new orders, signed by E. R. Stettinius, Jr., Director of Priorities, will permit the manufacturers covered to extend preference ratings to deliveries from subcontractors quickly, without the necessity of having each such extension considered as a separate and distinct case, involving considerable paper work.

Because of the extreme importance of military airplanes in the defense program, the new preference rating orders are broader in coverage than any of the blanket orders hitherto issued. It is expected that the application of the new system to airplane production will save considerable time and will help producers and their subcontractors to facilitate the flow of necessary parts and equipment into completed defense aircraft.

The new system means that, in general, virtually all products flowing into airplane construction will enjoy a preferential status so that they can be made available as promptly as possible in production plants. The products affected by the new system, however, must be on the Priorities Critical List.

Engine and propeller makers who receive the order are granted a preference rating of A-1-c, and in the second order, specified manufacturers of airframes are granted a preference rating of A-1-d. Under the terms of the order a producer of engines, propellers or airframes may apply the preference rating to deliveries from subcontractors by executing a copy of his order and serving it on the subcontractor involved.

Pilot, 87KB, wood, 7 ft. 3 1/4 in. diameter, 6 ft. 0 in. pitch, 125 hp, 1925 rpm. (Type Certificate No. 761, 4-22-41.)

Pilot, 87SKB, wood, 7 ft. 3 1/4 in. diameter, 6 ft. 0 in. pitch, 125 hp, 1925 rpm. (Type Certificate No. 761, 4-22-41.)

Sensenich, 70AF, wood, 5 ft. 10 in. diameter, 4 ft. 8 in. to 3 ft. 10 in. pitch, 80 hp, 2,500 rpm. (Type Certificate No. 734, 4-23-41.)

Appliances

Bendix, low pressure wheels, model B-3, 17.00-16, aluminum alloy cast. Approved static load per wheel 13,500 lbs. (Type Certificate No. 34, 4-30-41.)

First Quarter Aero Exports At All-Time High

United States exports of aeronautical products during the first quarter of 1941 reached an all-time high at a value of \$124,363,803, the Department of Commerce has reported.

This was an increase of \$57,547,595 over the value of aeronautical products exports in the first quarter of 1940. March 1941, trade was valued at \$49,722,677 compared with \$20,332,369 in March 1940.

March exports included 481 land planes valued at \$27,506,424; 1,012 engines valued at \$13,782,140; engine parts and accessories valued at \$2,914,239; instruments and parts valued at \$1,162,922; propellers and parts valued at \$1,725,367; other parts and accessories, \$2,597,403, and parachutes and parts at \$34,132.

Principal markets for March were the British Empire and Egypt, which received 414 planes valued at \$25,241,303; 983 engines valued at \$13,589,030; engine parts and accessories valued at \$2,670,939; and other aeronautical equipment amounting to \$4,932,847.

February shipments to these areas included 258 planes, valued at \$16,726,284; 632 engines totaling \$8,190,014; engines, parts and accessories valued at \$1,507,198, and other aeronautical products amounting to \$4,106,269.

Shipments to the Netherlands Indies in March totaled \$1,444,709, practically all of which represented the value of 35 planes exported.

In addition, there was exported in March 10 engines to China, valued at \$101,450, and 8 engines to Brazil, valued at \$27,885.

March Aircraft Employment Reaches 155,700 Total

The aircraft industry in March had 155,700 wage earners, an increase of 6,000 workers over the February total, according to United States Department of Labor estimates.

The March employment level brings the index of aircraft employment to 5590.4 percent of the 1923-25 average, which compares with 5345.0 percent in February, and 2379.4 percent in March 1940. The March pay-roll index figure stood at 6661.0 percent of the 1923-25 average, in February it was 6451.9 percent, and for March last year it was 2344.3 percent.

NOTICE

A revised edition of Civil Aeronautics Manual 04, AIRPLANE AIRWORTHINESS, and a new Civil Aeronautics Manual 16, AIRCRAFT RADIO EQUIPMENT AIRWORTHINESS, are now available. Requests for these publications should be addressed to the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C.

Manual 04, dated February 1, 1941, contains all of the revisions which were issued for the first edition, and, in addition, includes the manual revisions proposed in Aircraft Airworthiness Section Report No. 19, FLUTTER PREVENTION MEASURES. A new section, CAM 04.43-13 (POWER BOOST CONTROLS) has been added in this edition, while section E, appendix I of the previous manual (regarding the performance of large seaplanes) has been deleted in view of recent revisions to the performance requirements of Part 04 of the Civil Air Regulations.

Part 04 now is being printed and will be available shortly. It will be placed on sale by the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents per copy.

Manual 16, dated February 13, 1941, contains material intended to interpret and explain the airworthiness requirements pertaining to the type certification of aircraft radio equipment. It sets forth acceptable procedures for the presentation of technical data required, acceptable practices, standards of construction and test procedures for establishing compliance with the airworthiness requirements of Part 16 of the CAR. Part 16 may be obtained from the Superintendent of Documents for 5 cents.

FIRE PREVENTION

(Continued from page 133)

1. The development of aviation fire-protection equipment should progress proportionally, preferably ahead of the requirements to be faced through the rapid advancement in aviation.

2. In all phases of fire problems where personnel may be involved, either as a fire fighter or in rescue work, the protection of such personnel is paramount, and proper equipment for such operations should be given immediate consideration.

3. Mobile equipment on airports must be designed to meet the ever-increasing requirements for maneuverability and higher capacity to perform rescue work and to combat fires effectively within airport zones.

4. Mobile and portable equipment within hangars should be improved adequately to handle fires of considerable intensity within the fuselages of 21- and 50-passenger airplanes, again giving protection of personnel due consideration.

5. Deluge systems of open sprinklers actuated by rate of temperature rise

should be installed in hangars with high ceilings in order to assure effective protection of hangar and aircraft.

6. Better coordination of airport fire protection and local fire departments is imperative.

7. Education efforts for the training of airport personnel concerned in fire protection problems should be undertaken immediately.

8. Development and use of special mobile equipment should be encouraged, such as proper facilities for handling high-tension wires, improved application for running gasoline fires, etc.

Aero Gas Production Increases in March

Production of aviation gasoline during March reached 1,448,000 barrels compared with 1,238,000 barrels in February and 1,347,000 barrels in March last year, according to the Bureau of Mines. Production for the first quarter of this year was 4,252,000 barrels against 3,321,000 barrels in the like 1940 period.

Exports of aviation gasoline in March were 497,000 barrels compared with 355,000 barrels in February and 336,000 barrels in March 1940. Exports during the first 3 months of 1941 totaled 1,292,000 barrels against 793,000 barrels in the comparable months last year.

Stocks on hand at the end of March aggregated 6,876,000 barrels, stocks at the end of February were 6,672,000 barrels, while stocks at the end of March last year were 4,818,000 barrels.

[INDIVIDUAL ACCIDENT REPORTS]

Failure To Recover From Tailspin

Failure to recover from an intentional tailspin was the cause of the crash near Albuquerque Airport, Albuquerque, N. Mex. on August 20, 1940, in which student pilot Alfred Dittert was seriously injured.

Dittert, who was a Civilian Pilot Training Program student with about 16 hours of solo flight time, reported at the Albuquerque airport for the purpose of making a routine training flight. His instructor directed him to take-off and climb to an altitude of between 3,000 feet and 3,500 feet above the airport, which is situated approximately 5,500 feet above sea level. He was then to execute two 2-turn spins to the left and right over a point about 2 or 3 miles south of the airport. Following these spins, Dittert was to return to the airport and make three accuracy landings.

The student took-off toward the south and was last seen while climbing in that direction at an altitude of about 2,500 feet. A witness stated that he observed this aircraft a short time later as it was spinning to the left and that recovery

was not effected before it struck the ground. The aircraft was a Luscombe SA. Subsequent investigation did not indicate that any structural failure or malfunctioning of the controls had occurred during flight.

Probable Cause: Pilot failed to recover from intentional spin.

Contributing Factor: Inexperience of the pilot.

Take-Off With Malfunctioning Engine

Student pilot Joseph E. Osborne's action in continuing a take-off with a malfunctioning engine caused the crash in which he and his passenger, Austin E. Hogsed, were seriously injured on October 8, 1939 at Asheville-Henderson Airport, Fletcher, N. C.

Osborne and his passenger went from Rosman, N. C. to Fletcher for a short visit. The engine missed during the run for a take-off. But the aircraft took-off and was at an altitude of about 100 feet when it passed over the end of the 3,100-foot runway. The pilot immediately made a left turn back to the airport. He lost altitude during the turn and the plane crossed back over the airport boundary at an altitude of about 30 feet. Here the pilot stalled the aircraft, causing it to fall off to the left and strike the ground on its left wing. The aircraft, a Waco INF, powered by a 125-horsepower Kinner B-5 engine received major damage.

Investigation showed that a new set of spark plugs had previously been installed in the engine and that the engine functioned normally at high speed when equipped with these plugs but missed at low speeds. The pilot had these plugs removed prior to the accident and the old plugs installed. The engine was tested after the accident and was found to miss at full throttle.

Pilot Osborne was reprimanded on January 26, 1940, by the Civil Aeronautics Authority, for carrying passengers.

Probable Cause:—Action of the pilot in continuing take-off with a malfunctioning engine.

Loss of Control While Taxiing

Student pilot W. T. Clearman, Jr.'s loss of control of his Piper J3F-50 aircraft while taxiing caused the accident in which W. F. Neal was seriously injured on July 19, 1940, at Municipal Airport, Atlanta, Ga.

Neal was working at a gas pump at the airport when he was struck by the aircraft which Clearman was operating. Investigation revealed that the student became excited when he accidentally knocked the throttle partially open and then could not find the switch. The evidence indicated that the student made no attempt to steer the aircraft away from the hangar, although the plane was equipped with a steerable tailwheel.

Probable cause:—Student lost control of aircraft while taxiing.

Contributing factor:—Inexperience of the pilot.

CIVIL AERONAUTICS BOARD

OFFICIAL ACTIONS

Abstracts of Opinions, Orders, and Regulations

FOR THE PERIOD MAY 1-15, 1941

ORDERS

ORDER No. 1023: *Amended Order, Serial No. 732 re Mid-Continent's service to Aberdeen, S. Dak.*

The Board on May 1 amended Order, Serial No. 732, as amended by Order, Serial No. 815, authorizing Mid-Continent Airlines, Inc., temporarily to suspend service to and from Aberdeen, S. Dak., so as to continue said order in effect after May 1, 1941.

ORDER No. 1024: *Trans-Canada Air Lines permitted to inaugurate service to New York City.*

The Board on May 1 granted Trans-Canada Air Lines permission to inaugurate on April 30 service to New York, N. Y., through the use of LaGuardia Municipal Airport.

ORDER No. 1025: *Student pilot certificate held by George A. Altgelt revoked.*

The Board on May 2 revoked student pilot certificate No. S-204153, held by George Allen Altgelt, South Houston, Tex., for piloting an aircraft outside an area in the vicinity of the operating base of his instructor, and other violations of the Civil Air Regulations.

ORDER No. 1026: *Private pilot certificate held by Patrick O'Drigo suspended.*

The Board on May 2 suspended for a period of 60 days private pilot certificate No. 50313, held by Patrick O'Drigo, Detroit, Mich., for piloting an aircraft over a congested area at an altitude less than 1,000 feet in violation of the Civil Air Regulations.

ORDER No. 1027: *Denied petition of George W. Cottrell for hearing.*

The Board on May 2 denied the petition of George W. Cottrell, Parkersburg, W. Va., for a hearing on the violation of the Civil Air Regulations which was the basis for the revocation of his private pilot certificate. (Order, Serial No. 889.)

ORDER No. 1028: *Granted application of TWA for amendment of certificate and denied application of United.*

The Board on May 3 granted the application of Transcontinental & Western Air, Inc., for an amendment to its

certificate of public convenience and necessity for route No. 2 so as to include Reading, Pa., as an intermediate point; denied application of United Air Lines Transport Corp. (Opinion and order—Dockets Nos. 380,466.)

Notice

The CIVIL AERONAUTICS JOURNAL carries in this section an abstract of all orders, economic regulations, and rules, and a syllabus of all opinions issued by the Civil Aeronautics Board during the half month ending 2 weeks prior to the date of publication.

ECONOMIC OPINIONS

All opinions of the Board in economic proceedings are printed individually. They may be obtained on a subscription basis. These are "advance sheets" of the material which later will make up bound volumes of CIVIL AERONAUTICS BOARD REPORTS.

The subscription price for each volume of advance sheets of opinions is \$1. Remittance should be made to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Such subscriptions are governed by the quantity of pages rather than by specific periods of time. Current subscriptions include all opinions issued since June 30, 1940, and will continue until the consecutive pagination reaches approximately 800.

NOTE.—Advance sheets of economic opinions also may be purchased individually. As each opinion becomes available in printed forms, the title of the case, docket number, order number, date, and price will be listed here. All orders must be sent to the Superintendent of Documents.

Opinions in cases of suspension, revocation, or denial of airman certificates are available in mimeograph form only. Verbatim copies of these may be obtained by addressing a request for each individual order and opinion desired to the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C.

ORDER No. 1029: *Amended Order Serial No. 979 re service to Newark of United, TWA, Eastern, and American.*

The Board on May 3 amended Order, Serial No. 979, as amended by Order,

Serial No. 992, temporarily exempting United Air Lines Transport Corp., Transcontinental & Western Air, Inc., Eastern Air Lines, Inc., and American Airlines, Inc., from the provisions of their certificates authorizing service to Newark, N. J., so as to continue said order in effect through May 11, 1941.

ORDER No. 1030: *Student pilot certificate of David Emmert revoked.*

The Board on May 2 revoked student pilot certificate No. S-20502, held by David Emmert, Chicago, Ill., for piloting an aircraft acrobatically at altitudes between 100 and 300 feet, and other violations of the Civil Air Regulations.

ORDER No. 1031: *Aircraft and aircraft engine mechanic certificate of B. A. Landstrom suspended.*

The Board on May 6 suspended for a period of 30 days aircraft and aircraft engine mechanic certificate No. 12739, held by B. A. Landstrom, San Antonio, Tex., for carelessness and incompetence in failing properly to inspect an aircraft and in certifying said aircraft to be airworthy when it was, in fact, un-airworthy. (Opinion and order.)

ORDER No. 1032: *Private pilot certificate of Clyde Russell Primo suspended.*

The Board on May 6 suspended for a period of 60 days private pilot certificate No. 65889, held by Clyde Russell Primo, Cape Girardeau, Mo., for giving flight instruction for hire and other violations of the Civil Air Regulations. (Opinion and order.)

ORDER No. 1033: *Student pilot certificate of William S. Ferguson revoked.*

The Board on May 6 revoked student pilot certificate No. S-57627, held by William S. Ferguson, New Orleans, La., for piloting an aircraft carrying a passenger other than a certificated instructor and other violations of the Civil Air Regulations. (Opinion and order.)

ORDER No. 1034: *Air agency certificate of Southern Aviation School revoked.*

The Board on May 6 revoked air agency certificate No. 456, held by Edna Gardner Kidd and Raymond Lee Kidd doing business as Southern Aviation School.

JUNE 1, 1941

ORDER No. 1035: *Authorized flight of foreign registered aircraft over territory of United States.*

The Board on May 6 granted permission for the flight of an aircraft bearing Bolivian identification marks in the Continental United States and the Canal Zone on a flight from New York to La Paz, Bolivia, subject to certain terms and conditions.

ORDER No. 1036: *Harold W. Shangle directed to show cause why his aircraft and aircraft engine mechanic certificate should not be revoked or suspended.*

The Board on May 7 directed Harold W. Shangle, Portland, Oreg., to appear before an examiner of the Board and show cause why his aircraft and aircraft engine mechanic certificate No. 8553 should not be revoked or suspended for carelessness, incompetence, and inattention to his duties.

ORDER No. 1037: *Eastern Air Lines, Inc., permitted to inaugurate nonstop service on route No. 10.*

The Board on May 8 granted Eastern Air Lines, Inc., permission to inaugurate on May 10 nonstop service between Chicago, Ill., and Louisville, Ky., on route No. 10.

ORDER No. 1038: *Granted application of Eastern Air Lines, Inc., for amendment of its certificate for route No. 5.*

The Board on May 9 granted the application of Eastern Air Lines, Inc., for an amendment of its certificate of public convenience and necessity for route No. 5 to include Winston-Salem, N. C., as an intermediate point. (Opinion and order—Docket No. 475.)

ORDER No. 1039: *Chicago & Southern Air Lines, Inc., permitted to inaugurate nonstop service.*

The Board on May 9 granted Chicago & Southern Air Lines, Inc., permission to inaugurate on May 10 nonstop service between Houston, Tex., and Memphis, Tenn., on route No. 53.

ORDER No. 1040: *Amended Order, Serial No. 979 re service to Newark of United, TWA, Eastern and American.*

The Board on May 10 amended Order, Serial No. 979, as amended by Orders, Serial Nos. 962 and 1029, temporarily exempting United Air Lines Transport Corp., Transcontinental & Western Air, Inc., Eastern Air Lines, Inc., and American Airlines, Inc., from the provisions of their certificates authorizing service to Newark, N. J., so as to continue said order in effect through May 25, 1941.

ORDER No. 1041: *Private pilot certificate of Jack Fletcher Cook suspended.*

The Board on May 13 suspended for a period of 90 days private pilot cer-

tificate No. 70415, held by Jack Fletcher Cook, Lansing, Mich., for piloting an aircraft within a control zone while the weather conditions were below the minimums required for day contact flight, and other violations of the Civil Air Regulations.

ORDER No. 1042: *Applications of TWA and Braniff consolidated for hearing.*

The Board on May 13 consolidated for the purpose of hearing the application of Transcontinental & Western Air, Inc., for amendment of its certificate of public convenience and necessity for route No. 2 so as to include Topeka, Salina, and Hutchinson, Kans., as intermediate stops and the application of Braniff Airways, Inc., for amendment of its certificate for route No. 9 so as to include Topeka, Kans., as an intermediate stop.

NOTICE

Printed copies Civil Aeronautics Board Opinion No. 12, AIRWAYS (ATLANTIC) LIMITED.—PERMIT TO FOREIGN AIR CARRIER, are now available and may be secured from the Superintendent of Documents, Government Printing Office, for 5 cents each. Issuance of No. 11 brings the total of individually printed opinions by the Board now available to 11. Opinion No. 10, TRI-STATE AVIATION CORP.—CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY has not been issued yet.

ORDER No. 1043: *Continental granted permission to intervene in applications of TWA and Braniff.*

The Board on May 13 granted Continental Air Lines, Inc., permission to intervene in the applications of Transcontinental & Western Air, Inc., and Braniff Airways, Inc., for amendments to their certificates of public convenience and necessity.

ORDER No. 1044: *Interlocking relationships approved.*

The Board on May 13 approved interlocking relationships contained in the application of Arthur B. Nichols, Laurence F. Whittemore, Harry A. Carson, William A. Cole, and Northeast Airlines, Inc.

ORDER No. 1045: *Re rates of compensation for transportation of mail by Continental.*

The Board on May 15 adopted an order fixing and determining the fair and reasonable rates of compensation for the transportation of mail by Continental Air Lines, Inc., over routes No. 29 and 43 (Opinion and Order—Dockets 332 and 382.)

ORDER No. 1046: *Aircraft bearing Colombian identification marks permitted to fly within United States and Canal Zone.*

The Board on May 15 granted permission for the flight of an aircraft bearing Colombian identification marks, within the territorial limits of the United States and the Canal Zone, subject to certain terms and conditions.

REGULATIONS

ADMINISTRATOR'S AMENDMENT No. 2: *The Administrator of Civil Aeronautics on May 8 issued Administrator's Amendment No. 2 of the Civil Air Regulations (issued by the Administrator), "Registration of Aircraft upon Transfer of Ownership." The full text of the amendment follows:*

Effective June 1, 1941, part 01 of the Civil Air Regulations is amended as follows:

1. By amending section 01.11 to read as follows:

"01.11 Duration.—The registration and certificate issued pursuant thereto shall be of 60 days' duration and, unless the holder thereof is otherwise notified by the Administrator within such period, shall continue in effect indefinitely thereafter except that it shall immediately expire upon the date (1) the aircraft is registered under the laws of any foreign country, (2) the registration of the aircraft is canceled at the written request of the owner, (3) the aircraft is totally destroyed or scrapped, or (4) the ownership of the aircraft is transferred, unless on the date the registered owner transfers ownership of such aircraft he endorses the registration certificate in the manner provided thereon and the purchaser makes application for the registration of the aircraft in his name."

2. By amending section 01.12 to read as follows:

"01.12 Transferability.—A registration certificate is not transferable except that upon the transfer of ownership of an aircraft registered as a civil aircraft of the United States, the registration and certificate issued pursuant thereto may be transferred to the purchaser upon the following conditions:

(a) The purchaser is a citizen of the United States as defined in section 1 (13) of the Civil Aeronautics Act of 1938, as amended;

(b) On the date the registered owner transfers ownership of such aircraft he shall endorse the registration certificate in the manner provided thereon and deliver such certificate to the purchaser; and

(c) On the date of transfer, an application for registration of the aircraft in the name of the purchaser is either mailed to the Administrator or delivered directly to an inspector of the Administrator.

REGULATION No. 157: *Amendment No. 108 of the CAR.*

The Board on May 13 adopted Amendment No. 108 of the Civil Air Regulations, REDESIGNATION OF RADIO FIXES, CONTROL ZONES OF INTERSECTION, and AIRWAY TRAFFIC CONTROL AREAS. This amends part 60 of the CAR, and is effective June 1. (Space limitations prevent the publication here of the full text of the amendment, but copies may be obtained from the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C.)

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